FIG.1A

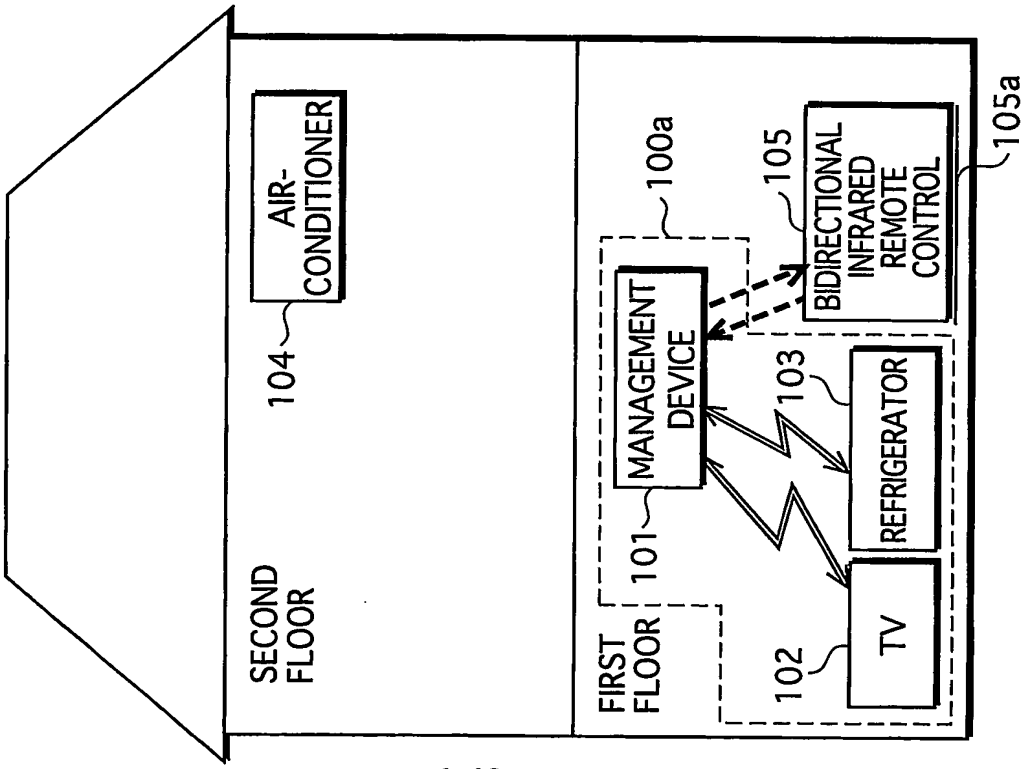

SECOND FLOOR
AIR-CONDITIONER
104
FIRST FLOOR
100a
MANAGEMENT DEVICE
101
105
BIDIRECTIONAL INFRARED REMOTE CONTROL
105a
103
REFRIGERATOR
102
TV

FIG.1B

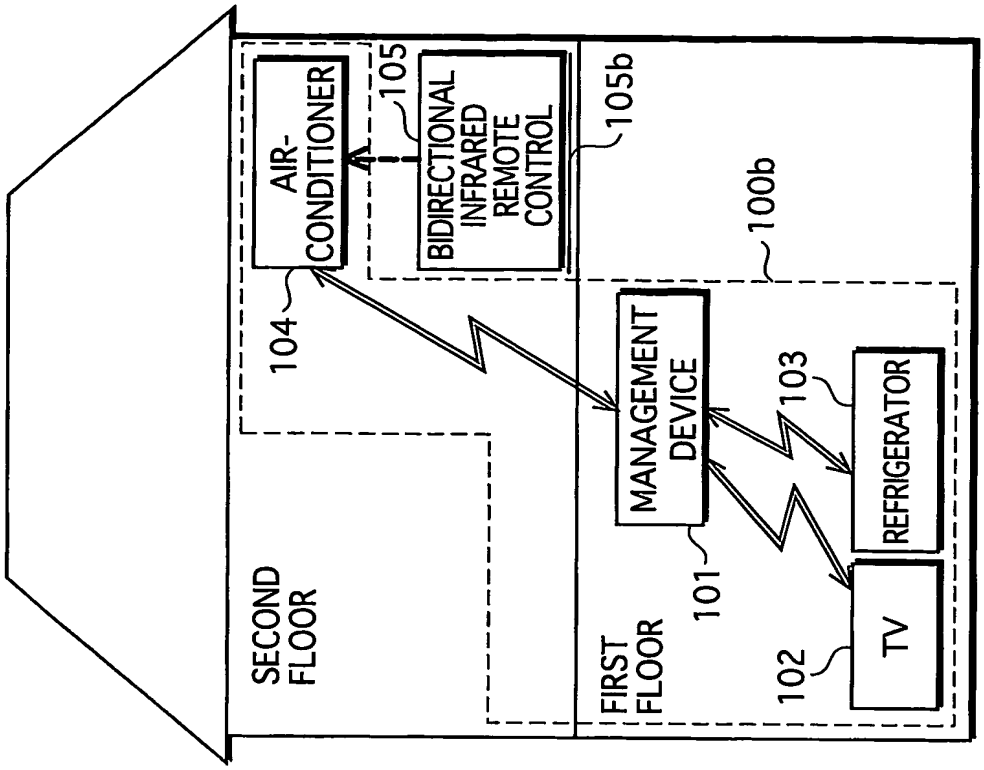

SECOND FLOOR
AIR-CONDITIONER
104
105
BIDIRECTIONAL INFRARED REMOTE CONTROL
105b
100b
FIRST FLOOR
MANAGEMENT DEVICE
101
103
REFRIGERATOR
102
TV

FIG.2

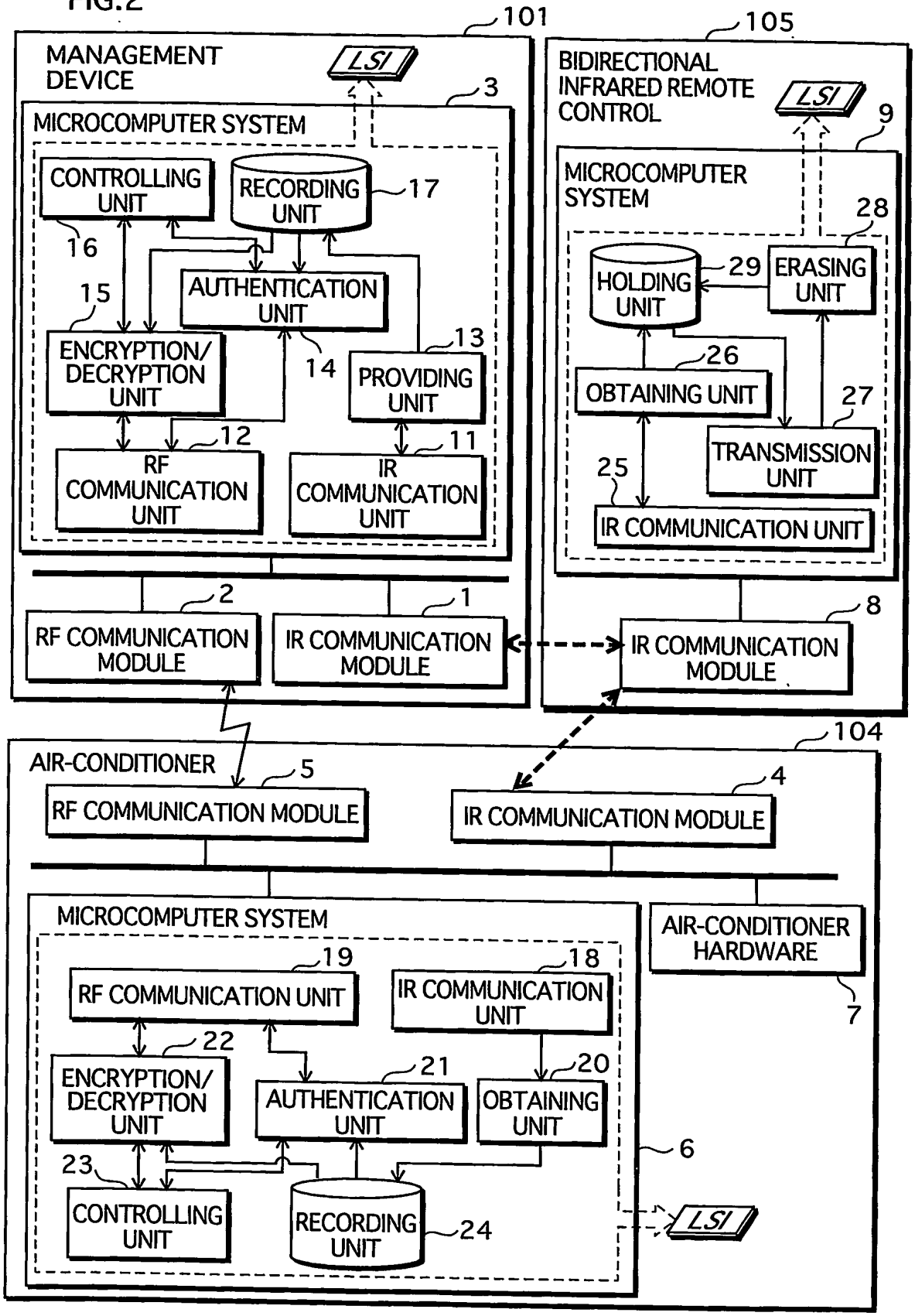

101
MANAGEMENT DEVICE
LSI
3
MICROCOMPUTER SYSTEM
CONTROLLING UNIT
RECORDING UNIT
17
16
AUTHENTICATION UNIT
15
ENCRYPTION/ DECRYPTION UNIT
14
PROVIDING UNIT
13
12
RF COMMUNICATION UNIT
11
IR COMMUNICATION UNIT
2
1
RF COMMUNICATION MODULE
IR COMMUNICATION MODULE
105
BIDIRECTIONAL INFRARED REMOTE CONTROL
LSI
9
MICROCOMPUTER SYSTEM
28
HOLDING UNIT
29
ERASING UNIT
26
OBTAINING UNIT
27
TRANSMISSION UNIT
25
IR COMMUNICATION UNIT
8
IR COMMUNICATION MODULE
104
AIR-CONDITIONER
5
RF COMMUNICATION MODULE
4
IR COMMUNICATION MODULE
MICROCOMPUTER SYSTEM
19
RF COMMUNICATION UNIT
18
IR COMMUNICATION UNIT
22
ENCRYPTION/ DECRYPTION UNIT
21
AUTHENTICATION UNIT
20
OBTAINING UNIT
23
CONTROLLING UNIT
RECORDING UNIT
24
6
LSI
AIR-CONDITIONER HARDWARE
7

FIG.3

FIELD NAME	DATA LENGTH (Byte)	DATA CONTENT	VALUE
Type1	1	TYPE OF OBJECT 1	0x01 : PASSWORD
Length1	1	DATA LENGTH OF OBJECT 1	0x08 : 8Byte
Object1	8	PASSWORD	INDEFINITE VALUE
Type2	1	TYPE OF OBJECT 2	0x02 : TARGET DEVICE ADDRESS
Length2	1	DATA LENGTH OF OBJECT 2	0x06 : 6Byte
Object2	6	TARGET DEVICE ADDRESS	INDEFINITE VALUE

FIG.4

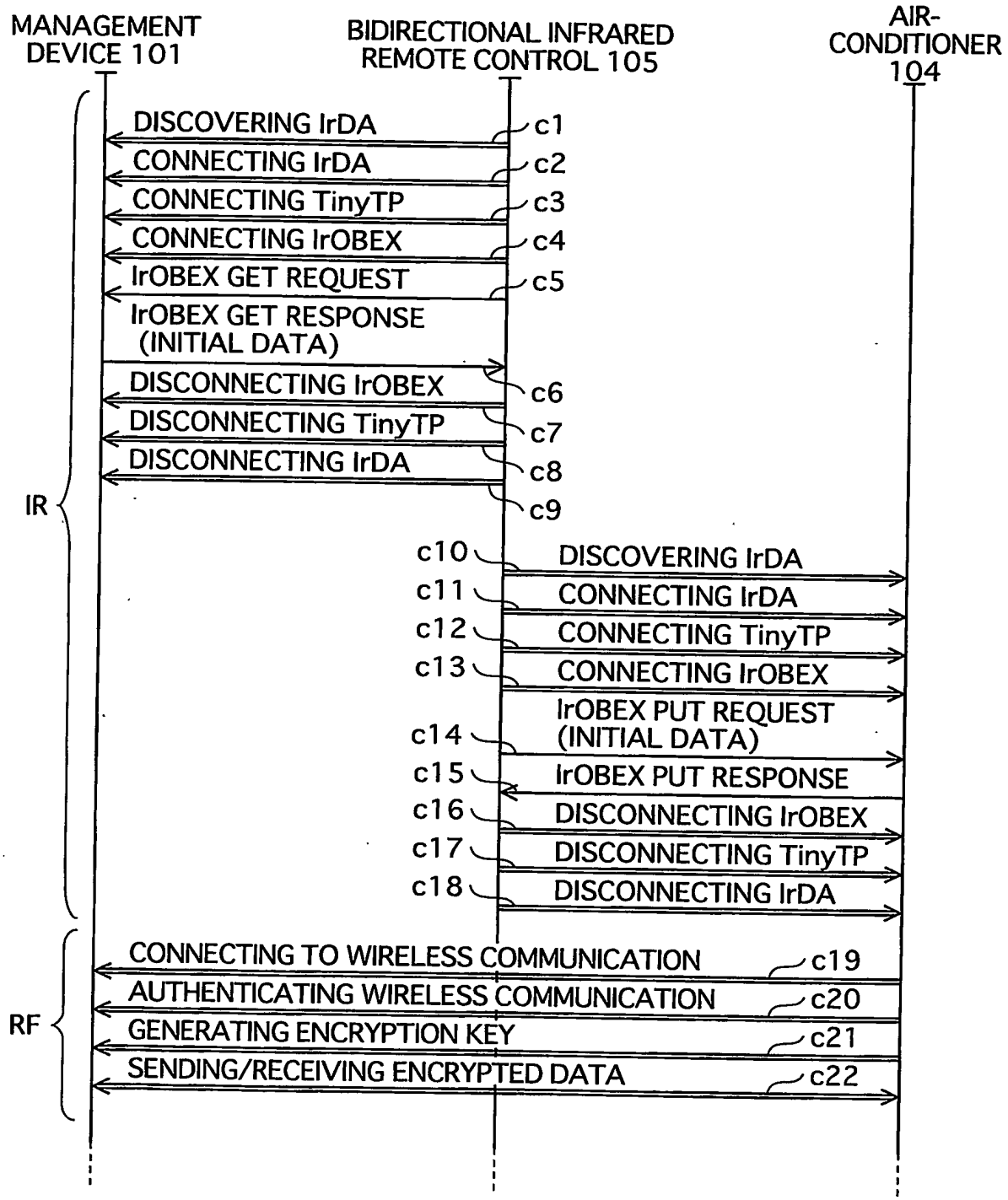

MANAGEMENT DEVICE 101
BIDIRECTIONAL INFRARED REMOTE CONTROL 105
AIR-CONDITIONER 104
DISCOVERING IrDA
c1
CONNECTING IrDA
c2
CONNECTING TinyTP
c3
CONNECTING IrOBEX
c4
IrOBEX GET REQUEST
c5
IrOBEX GET RESPONSE (INITIAL DATA)
DISCONNECTING IrOBEX
c6
DISCONNECTING TinyTP
c7
DISCONNECTING IrDA
c8
c9
IR
c10
DISCOVERING IrDA
c11
CONNECTING IrDA
c12
CONNECTING TinyTP
c13
CONNECTING IrOBEX
IrOBEX PUT REQUEST (INITIAL DATA)
c14
c15
IrOBEX PUT RESPONSE
c16
DISCONNECTING IrOBEX
c17
DISCONNECTING TinyTP
c18
DISCONNECTING IrDA
CONNECTING TO WIRELESS COMMUNICATION
c19
AUTHENTICATING WIRELESS COMMUNICATION
c20
GENERATING ENCRYPTION KEY
c21
SENDING/RECEIVING ENCRYPTED DATA
c22
RF

FIG.5

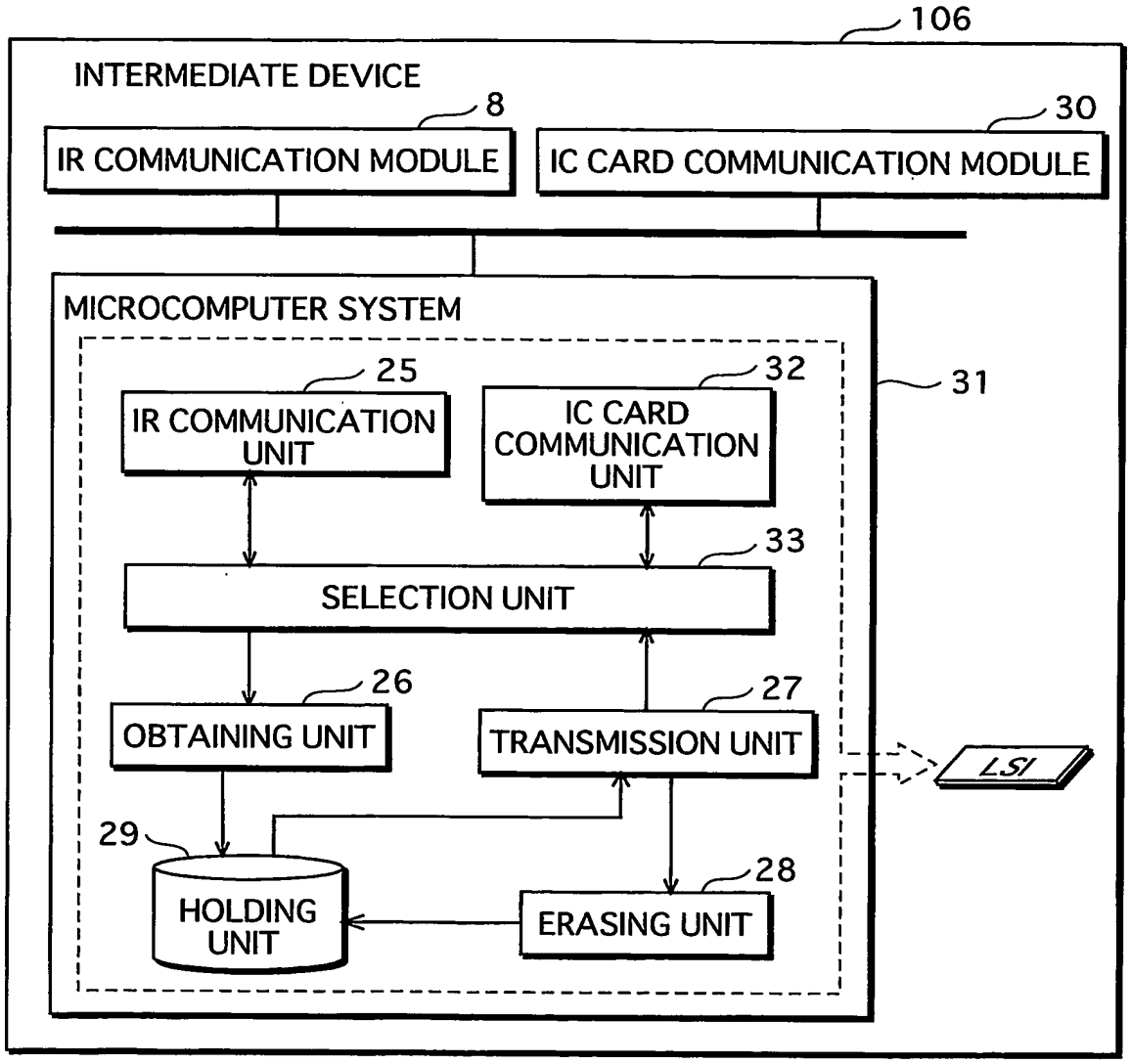

106
INTERMEDIATE DEVICE
8
IR COMMUNICATION MODULE
30
IC CARD COMMUNICATION MODULE
MICROCOMPUTER SYSTEM
31
25
IR COMMUNICATION UNIT
32
IC CARD COMMUNICATION UNIT
33
SELECTION UNIT
26
OBTAINING UNIT
27
TRANSMISSION UNIT
LSI
29
HOLDING UNIT
28
ERASING UNIT

FIG.6

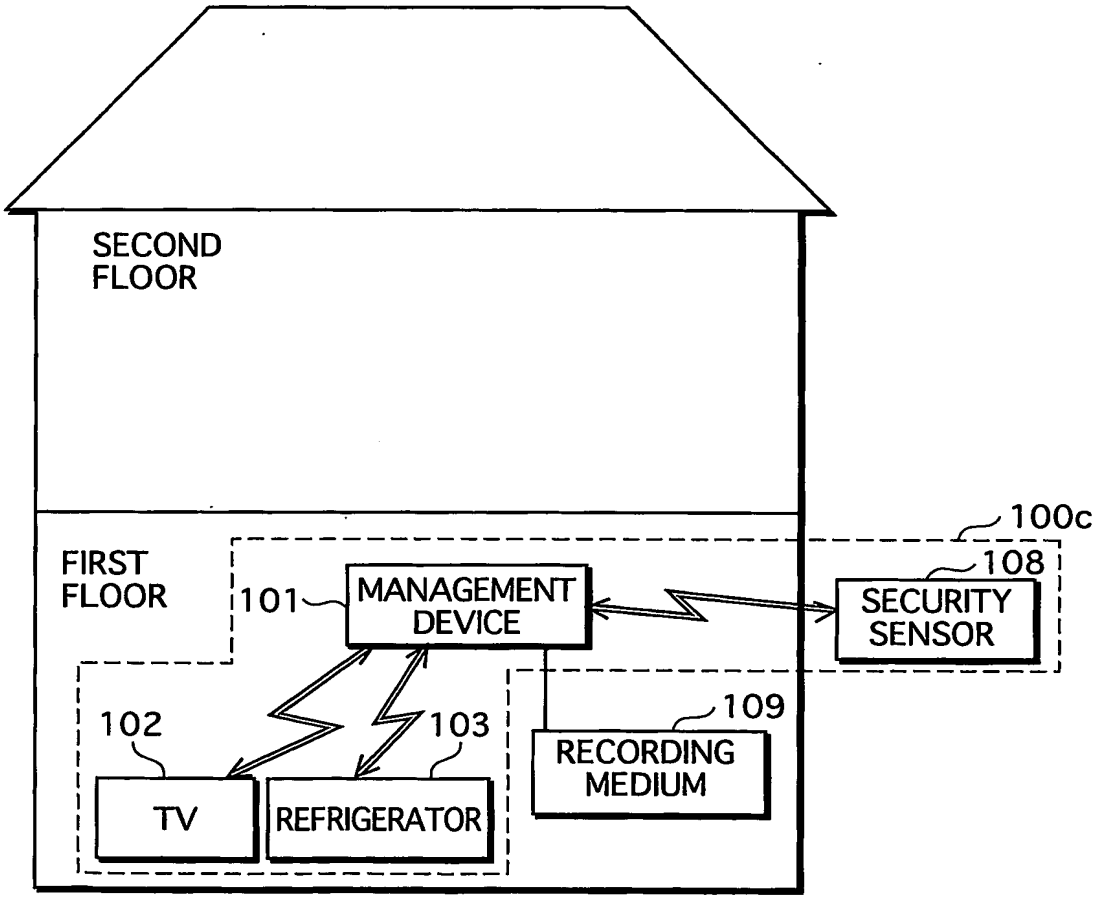

SECOND FLOOR
FIRST FLOOR
100c
101
MANAGEMENT DEVICE
108
SECURITY SENSOR
102
103
109
RECORDING MEDIUM
TV
REFRIGERATOR

FIG.7

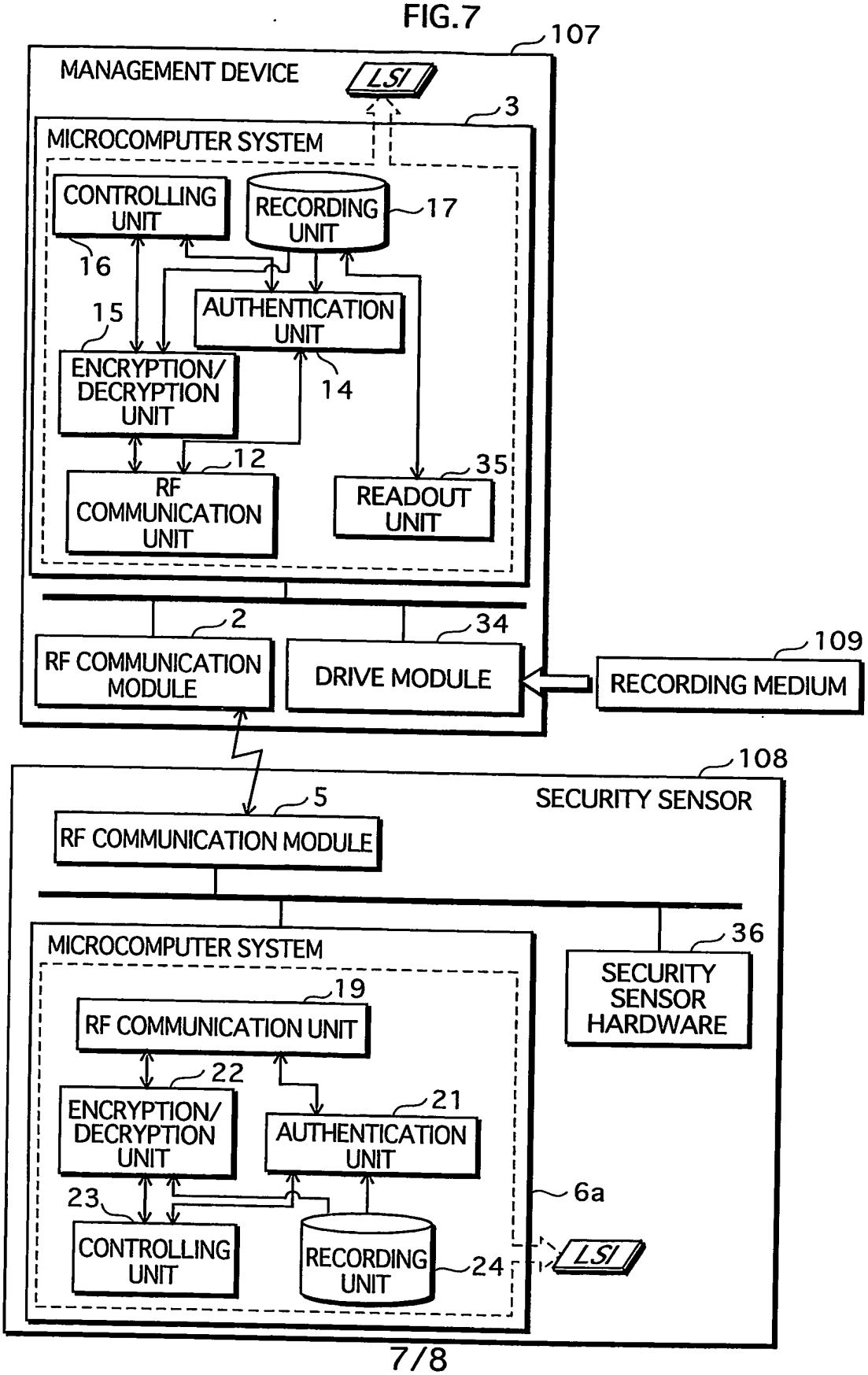
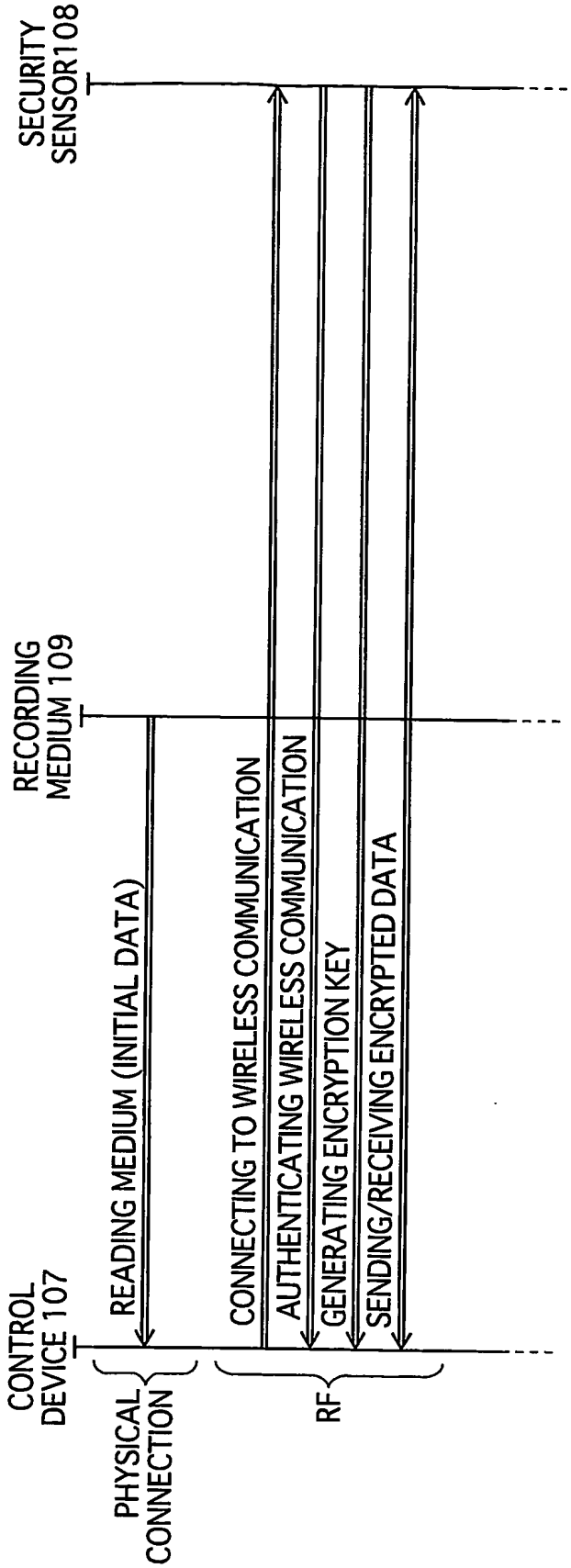

107
MANAGEMENT DEVICE
LSI
3
MICROCOMPUTER SYSTEM
CONTROLLING UNIT
16
RECORDING UNIT
17
15
AUTHENTICATION UNIT
14
ENCRYPTION/ DECRYPTION UNIT
12
RF COMMUNICATION UNIT
35
READOUT UNIT
2
RF COMMUNICATION MODULE
34
DRIVE MODULE
109
RECORDING MEDIUM
108
SECURITY SENSOR
5
RF COMMUNICATION MODULE
MICROCOMPUTER SYSTEM
19
RF COMMUNICATION UNIT
22
ENCRYPTION/ DECRYPTION UNIT
21
AUTHENTICATION UNIT
23
CONTROLLING UNIT
RECORDING UNIT
24
6a
LSI
36
SECURITY SENSOR HARDWARE

FIG.8


SECURITY SENSOR108
RECORDING MEDIUM 109
CONTROL DEVICE 107
READING MEDIUM (INITIAL DATA)
CONNECTING TO WIRELESS COMMUNICATION
AUTHENTICATING WIRELESS COMMUNICATION
GENERATING ENCRYPTION KEY
SENDING/RECEIVING ENCRYPTED DATA
PHYSICAL CONNECTION
RF